(A)

(B)

Ser Tyr Gly Gly Ala Pro Gln Arg Glu Ser Glu Ala Tyr Leu Arg Ala Ala Arg Ser Phe 120
          310   320   330   340   350   360

CG8134 ORF	T C C T A C G G C G G C G C A C C G C A G C G C G A A T C G G A G G C C T A T C T G C G G G C A G C T A G A T C C T T C 360
CG8134-ko3	T C C T A C G G C G G C G - 313
CG8134-ko7	T C C T A C G G C G G C G C A C C G C A G C G C G A A T C G G A G G C C T A T C T G C G G G C A G C T A G A T C C - - - 357
CG8134-ko8	T C C T A C G G C G G C G C A C C G C A G C G C G A A T C G G A G G C C T A T C T G C G G G C A G C T A G A T C C T - - 358
CG8134-ko9	T C C T A C G G C G G C G C A C C G C A G C G C G A A T C G G A G G C C T A T C T G C G G - - - - - - - - - - - - - - - 345

Leu Ala Ala His Asn Glu Ser Gly Arg Leu His Leu Arg Thr Arg His Ser Gly Phe Arg 140
          370   380   390   400   410   420

CG8134 ORF	C T A G C G G C G C A C A A C G A G T C C G G G C G A C T G C A T C T G C G C A C C C G C C A C T C G G G A T T T C G G 420
CG8134-ko3	- 313
CG8134-ko7	- G G G C G A C T G C A T C T G C G C A C C C G C C A C T C G G G A T T T C G G 396
CG8134-ko8	- 358
CG8134-ko9	- - - - - - - C G C A C A A C G A G T C C G G G C G A C T G C A T C T G C G C A C C C G C C A C T C G G G A T T T C G G 398

Glu Gly Ala Val His Cys Tyr His Arg Ala Ala Asp Arg Ala Val Asp Gly Cys Val Phe 160
          430   440   450   460   470   480

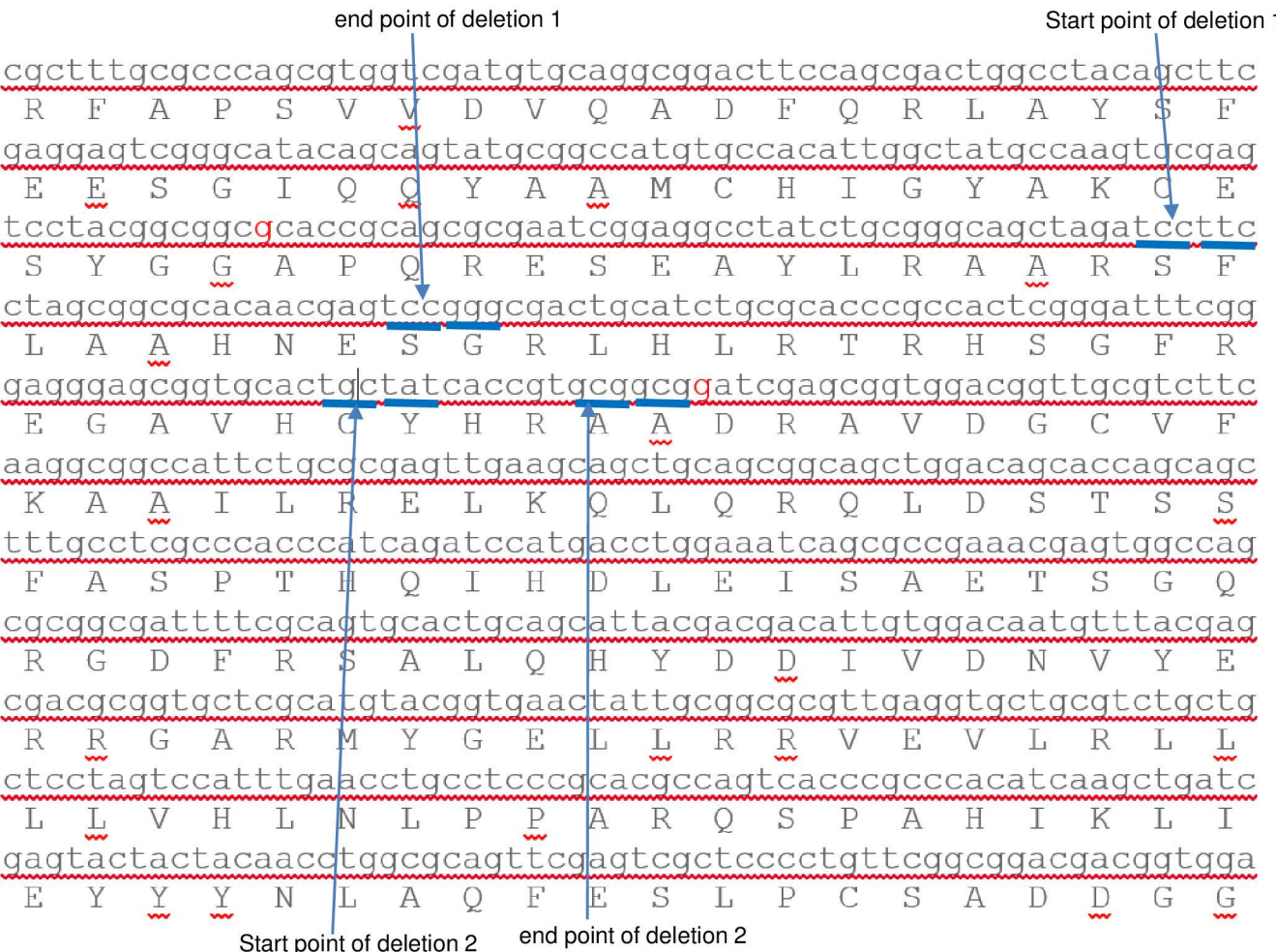|	
CG8134 ORF	G A G G G A G C G G T G C A C T G C T A T C A C C G T G C G G C G G A T C G A G C G G T G G A C G G T T G C G T C T T C 480
CG8134-ko3	- G A T C G A G C G G T G G A C G G T T G C G T C T T C 340
CG8134-ko7	G A G G G A G C G G T G C A C T G C - - - - - - - - - - - - - - - - - - - G G C G G A T C G A G C G G T G G A C G G T T G C G T C T T C 445
CG8134-ko8	- G C G G C G G A T C G A G C G G T G G A C G G T T G C G T C T T C 391
CG8134-ko9	G A G G G A G C G G T G C A C C G C - - - - - - - - - - - - - - - - - G G A T C G A G C G G T G G A C G G T T G C G T C T T C 444

(C)

Start point of deletion

end point of deletion

```
cgcttttgcgcccagcgtggtcgatgtgcaggcggacttccagcgactggcctacagcttc
 R   F   A   P   S   V   V   D   V   Q   A   D   F   Q   R   L   A   Y   S   F
gaggagtcgggcatacagcagtatgcggccatgtgccacattggctatgccaagtgcgag
 E   E   S   G   I   Q   Q   Y   A   A   M   C   H   I   G   Y   A   K   C   E
tcctacggcggcgcaccgcagcgcgaatcggaggcctatctgcgggcagctagatccttc
 S   Y   G   G   A   P   Q   R   E   S   E   A   Y   L   R   A   A   R   S   F
ctagcggcgcacaacgagtccgggcgactgcatctgcgcacccgccactcgggatttcgg
 L   A   A   H   N   E   S   G   R   L   H   L   R   T   R   H   S   G   F   R
gagggagcggtgcactgctatcaccgtgcggcgatcgagcggtggacggttgcgtcttc
 E   G   A   V   H   C   Y   H   R   A   A   D   R   A   V   D   G   C   V   F
aaggcggccattctgcgcgagttgaagcagctgcagcggcagctggacagcaccagcagc
 K   A   A   I   L   R   E   L   K   Q   L   Q   R   Q   L   D   S   T   S   S
tttgcctcgcccacccatcagatccatgacctggaaatcagcgccgaaacgagtggccag
 F   A   S   P   T   H   Q   I   H   D   L   E   I   S   A   E   T   S   G   Q
cgcggcgattttcgcagtgcactgcagcattacgacgacattgtggacaatgtttacgag
 R   G   D   F   R   S   A   L   Q   H   Y   D   D   I   V   D   N   V   Y   E
cgacgcggtgctcgcatgtacggtgaactattgcggcgcgttgaggtgctgcgtctgctg
 R   R   G   A   R   M   Y   G   E   L   L   R   R   V   E   V   L   R   L   L
ctcctagtccatttgaacctgcctcccgcacgccagtcacccgcccacatcaagctgatc
 L   L   V   H   L   N   L   P   P   A   R   Q   S   P   A   H   I   K   L   I
gagtactactacaacctggcgcagttcgagtcgctcccctgttcggcggacgacggtgga
 E   Y   Y   Y   N   L   A   Q   F   E   S   L   P   C   S   A   D   D   G   G
```

(D)

end point of deletion 1   Start point of deletion 1

```
cgctttgcgcccagcgtggtcgatgtgcaggcggacttccagcgactggcctacagcttc
  R   F   A   P   S   V   V   D   V   Q   A   D   F   Q   R   L   A   Y   S   F
gaggagtcgggcatacagcagtatgcggccatgtgccacattggctatgccaagtgcgag
  E   E   S   G   I   Q   Q   Y   A   A   M   C   H   I   G   Y   A   K   C   E
tcctacggcggcgcaccgcagcgcgaatcggaggcctatctgcgggcagctagatccttc
  S   Y   G   G   A   P   Q   R   E   S   E   A   Y   L   R   A   A   R   S   F
ctagcggcgcacaacgagtccgggcgactgcatctgcgcacccgccactcgggatttcgg
  L   A   A   H   N   E   S   G   R   L   H   L   R   T   R   H   S   G   F   R
gagggagcggtgcactgctatcaccgtgcggcggatcgagcggtggacggttgcgtcttc
  E   G   A   V   H   C   Y   H   R   A   A   D   R   A   V   D   G   C   V   F
aaggcggccattctgcgcgagttgaagcagctgcagcggcagctggacagcaccagcagc
  K   A   A   I   L   R   E   L   K   Q   L   Q   R   Q   L   D   S   T   S   S
tttgcctcgcccacccatcagatccatgacctggaaatcagcgccgaaacgagtggccag
  F   A   S   P   T   H   Q   I   H   D   L   E   I   S   A   E   T   S   G   Q
cgcggcgattttcgcagtgcactgcagcattacgacgacattgtggacaatgtttacgag
  R   G   D   F   R   S   A   L   Q   H   Y   D   D   I   V   D   N   V   Y   E
cgacgcggtgctcgcatgtacggtgaactattgcggcgcgttgaggtgctgcgtctgctg
  R   R   G   A   R   M   Y   G   E   L   L   R   R   V   E   V   L   R   L   L
ctcctagtccatttgaacctgcctcccgcacgccagtcacccgcccacatcaagctgatc
  L   L   V   H   L   N   L   P   P   A   R   Q   S   P   A   H   I   K   L   I
gagtactactacaacctggcgcagttcgagtcgctcccctgttcggcggacgacggtgga
  E   Y   Y   Y   N   L   A   Q   F   E   S   L   P   C   S   A   D   D   G   G
```

Start point of deletion 2   end point of deletion 2

(E)

end point of deletion

Start point of deletion

```
cgctttgcgcccagcgtggtcgatgtgcaggcggacttccagcgactggcctacagcttc
  R   F   A   P   S   V   V   D   V   Q   A   D   F   Q   R   L   A   Y   S   F
gaggagtcgggcatacagcagtatgcggccatgtgccacattggctatgccaagtgcgag
  E   E   S   G   I   Q   Q   Y   A   A   M   C   H   I   G   Y   A   K   C   E
tcctacggcggcgcaccgcagcgcgaatcggaggcctatctgcgggcagctagatccttc
  S   Y   G   G   A   P   Q   R   E   S   E   A   Y   L   R   A   A   R   S   F
ctagcggcgcacaacgagtccgggcgactgcatctgcgcacccgccactcgggatttcgg
  L   A   A   H   N   E   S   G   R   L   H   L   R   T   R   H   S   G   F   R
gagggagcggtgcactgctatcaccgtgcggcggatcgagcggtggacggttgcgtcttc
  E   G   A   V   H   C   Y   H   R   A   A   D   R   A   V   D   G   C   V   F
aaggcggccattctgcgcgagttgaagcagctgcagcggcagctggacagcaccagcagc
  K   A   A   I   L   R   E   L   K   Q   L   Q   R   Q   L   D   S   T   S   S
tttgcctcgcccacccatcagatccatgacctggaaatcagcgccgaaacgagtggccag
  F   A   S   P   T   H   Q   I   H   D   L   E   I   S   A   E   T   S   G   Q
cgcggcgattttcgcagtgcactgcagcattacgacgacattgtggacaatgtttacgag
  R   G   D   F   R   S   A   L   Q   H   Y   D   D   I   V   D   N   V   Y   E
cgacgcggtgctcgcatgtacggtgaactattgcggcgcgttgaggtgctgcgtctgctg
  R   R   G   A   R   M   Y   G   E   L   L   R   R   V   E   V   L   R   L   L
ctcctagtccatttgaacctgcctcccgcacgccagtcacccgcccacatcaagctgatc
  L   L   V   H   L   N   L   P   P   A   R   Q   S   P   A   H   I   K   L   I
gagtactactacaacctggcgcagttcgagtcgctcccctgttcggcggacgacggtgga
  E   Y   Y   Y   N   L   A   Q   F   E   S   L   P   C   S   A   D   D   G   G
```

(F)

end point of deletion 1   Start point of deletion 1

```
cgctttgcgcccagcgtggtcgatgtgcaggcggacttccagcgactggcctacagcttc
  R   F   A   P   S   V   V   D   V   Q   A   D   F   Q   R   L   A   Y   S   F
gaggagtcgggcatacagcagtatgcggccatgtgccacattggctatgccaagtgcgag
  E   E   S   G   I   Q   Q   Y   A   A   M   C   H   I   G   Y   A   K   C   E
tcctacggcggcgcaccgcagcgcgaatcggaggcctatctgcgggcagctagatccttc
  S   Y   G   G   A   P   Q   R   E   S   E   A   Y   L   R   A   A   R   S   F
ctagcggcgcacaacgagtccgggcgactgcatctgcgcacccgccactcgggatttcgg
  L   A   A   H   N   E   S   G   R   L   H   L   R   T   R   H   S   G   F   R
```
C |
```
gagggagcggtgcactgctatcaccgtgcggcgatcgagcggtggacggttgcgtcttc
  E   G   A   V   H   C   Y   H   R   A   A   D   R   A   V   D   G   C   V   F
aaggcggccattctcgcgcgagttgaagcagctgcagcggcagctggacagcaccagcagc
  K   A   A   I   L   R   E   L   K   Q   L   Q   R   Q   L   D   S   T   S   S
tttgcctcgcccacccatcagatccatgacctggaaatcagcgccgaaacgagtggccag
  F   A   S   P   T   H   Q   I   H   D   L   E   I   S   A   E   T   S   G   Q
cgcggcgattttcggagtgcactgcagcattacgacgacacattgtggacaatgtttacgag
  R   G   D   F   R   S   A   L   Q   H   Y   D   D   I   V   D   N   V   Y   E
cgacgcggtgctcggatgtacggtgaactattgcggcgcgttgaggtgctgcgtctgctg
  R   R   G   A   R   M   Y   G   E   L   L   R   R   V   E   V   L   R   L   L
ctcctagtccatttgaacctgcctcccgcacggccagtcacccgcccacatcaagctgatc
  L   L   V   H   L   N   L   P   P   A   R   Q   S   P   A   H   I   K   L   I
gagtactactacaacctggcgcagttcgagtcgctcccctgttcggcggacgacggtgga
  E   Y   Y   Y   N   L   A   Q   F   E   S   L   P   C   S   A   D   D   G   G
```

Start point of deletion 2, with a insertion of C   end point of deletion 2